

CALIFORNIA ENERGY COMMISSION WORKSHOP

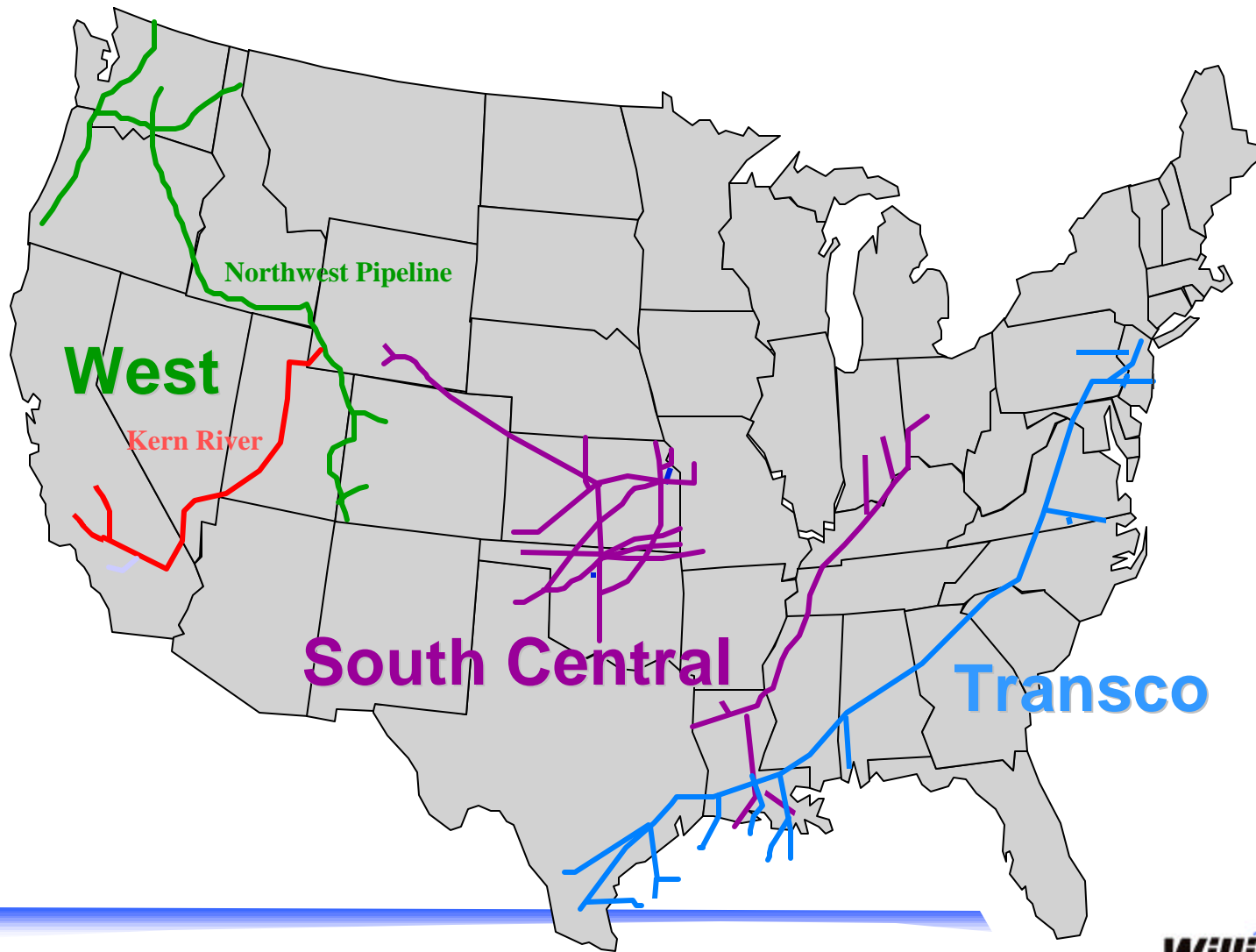
Natural Gas Issues That May Affect Siting of New Power Plants

January 25, 2001

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WILLIAMS GAS PIPELINE TODAY



CONVERGENCE OF MARKET FORCES DRIVE KERN RIVER EXPANSION

- New Power Generation in Nevada and California
- Increased Production in the Rocky Mountains
- Increased Competition For Canadian Gas
- Reduced Transportation Rates on Kern River
- Upstream markets are growing on all Interstate Pipelines



PROPOSED POWER PLANTS ON KERN RIVER

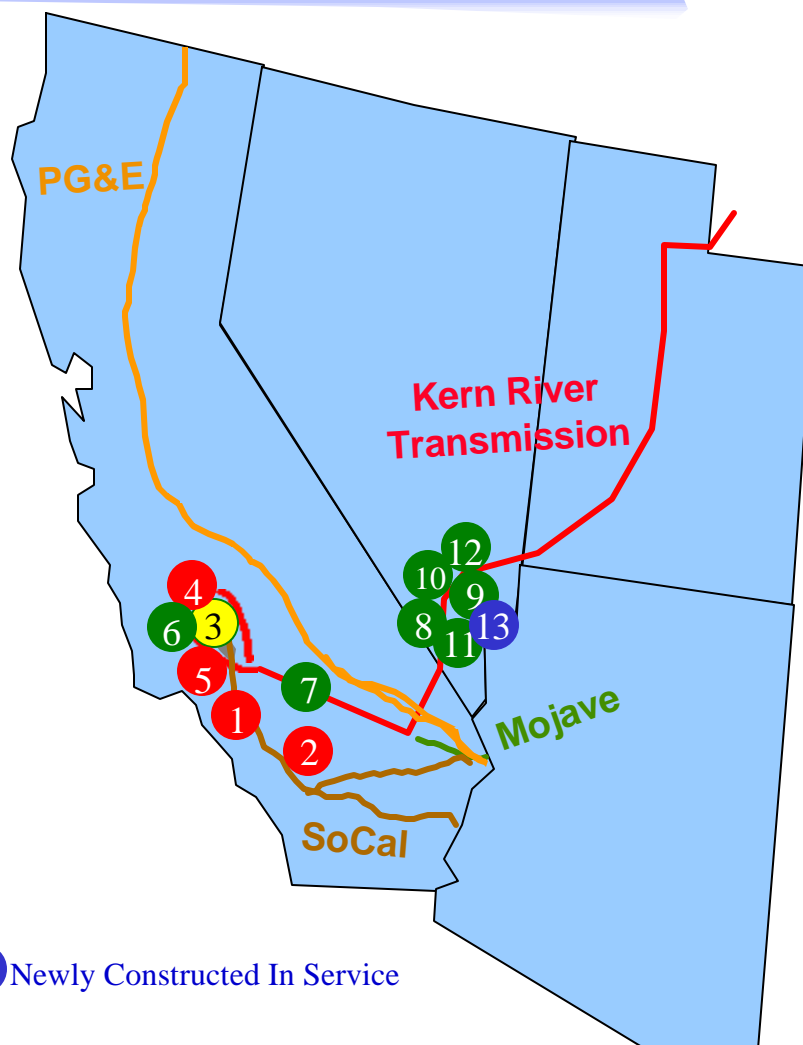
Nevada		Status	Target In-Service Date
- El Dorado Power Plant (Semptra/Reliant)	480 MW	In Service	May 2000
- Apex Power Plant (Southern)	500 MW	Under Development	
- Moapa Energy Facility (Duke)	1,200 MW	Under Development	May 2003
- Meadow Valley Power Plant (PG&E)	1,000 MW	Under Development	March 2004
- Arrow Canyon Power Plant (Reliant)	500 MW	Under Development	June 2003
- Crystal Power Plant (Calpine)	800 MW	Under Development	June 2003
- Unannounced Power Plants	<u>1,000 MW</u>	Under Development	July 2003
-Total Nevada	5,480 MW		
California (Direct Connect)			
- High Desert Power Project (Constellation Energy)	720 MW	CEC Approved	June 2003
- Pastoria Power Project (Enron)	750 MW	CEC Approval Recommended	June 2003
- La Paloma (PG&E)	1,043 MW	Under Construction	January 2002
- Elk Hills Power Project (OXY/Semptra)	500 MW	CEC Approved	June 2003
- Sunrise Power Plant (SoCal Edison/Mission Energy)	320 MW	CEC Approved	August 2001
- Midway Sunset Power Plant (Midway Sunset Cogen)	500 MW	Under Development	TBD
- Antelope Valley Power Project (Enron)	<u>1,000 MW</u>	CEC Reviewing AFC	June 2004
-Total California (Direct Connect)	4,833 MW		
California Power Plant served through Kern River Interconnects			
w/SoCal & PG&E			
- Redondo (AES/Williams)	700 MW	Under Development	TBD
- Nueva Azalea (Sunlaw Cogen)	550 MW	Under Development	June 2003
- Long Beach (Enron)	500 MW	In Active	
- Mountainview (Thermo Ecotek)	1,055 MW	CEC Reviewing AFC	June 2003
- Otay Mesa (PG&E)	530 MW	CEC Reviewing AFC	June 2003
- Morro Bay (Duke)	<u>530 MW</u>	CEC Reviewing AFC	June 2003
-Total Power Plants served through Interconnects			
w/SoCal & PG&E	<u>3,865 MW</u>		
TOTAL NEVADA, CALIFORNIA AND INTERCONNECTS	<u>14,178 MW</u>		



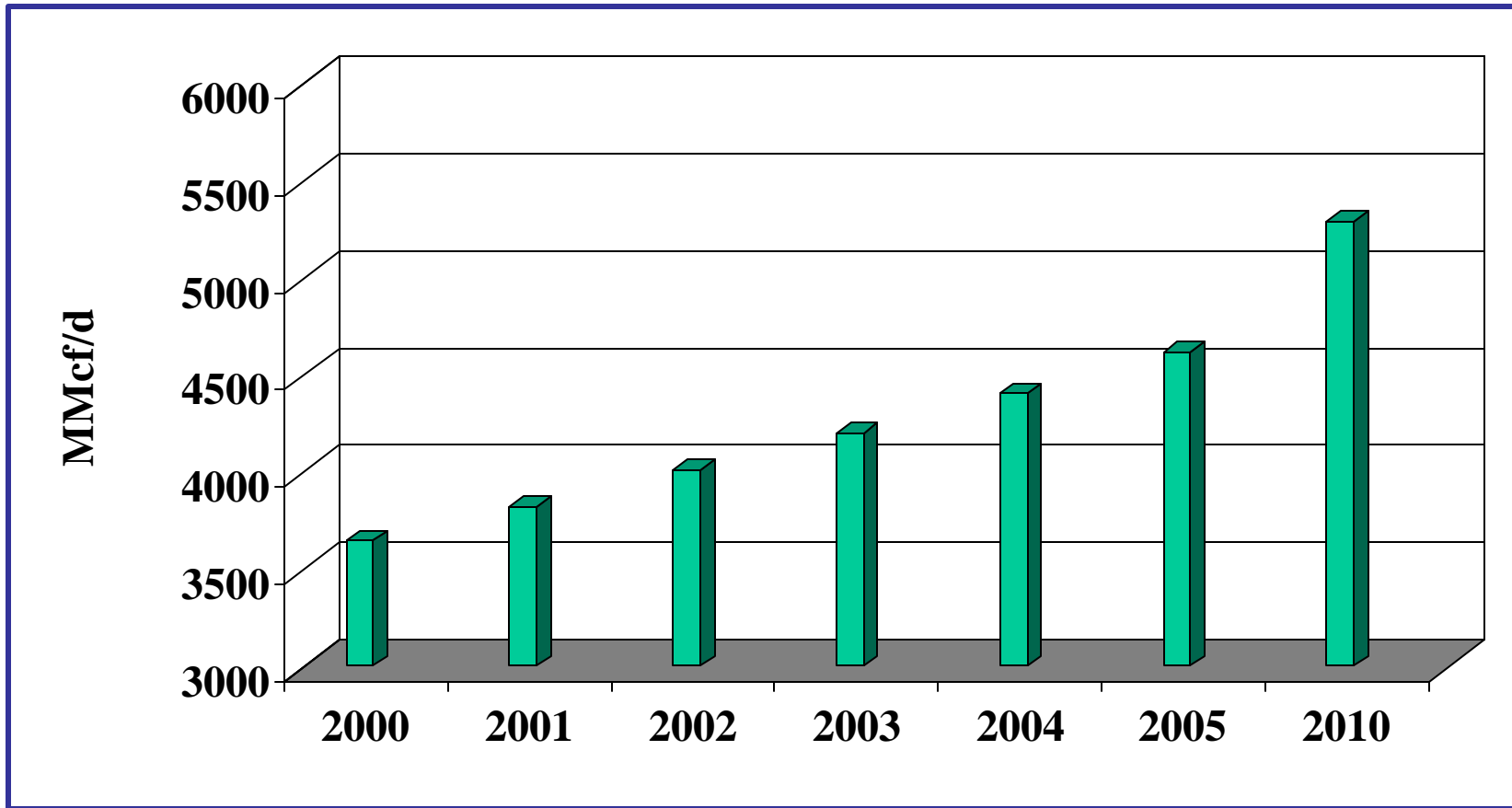
LOCATION OF PROPOSED POWER PLANTS

- 1 Pastoria - Enron (750 MW)
- 2 High Desert - Constellation (720 MW)
- 3 La Paloma - PG&E (1050 MW)
- 4 Elk Hills - Oxy/Sempra (500 MW)
- 5 Sunrise - Mission Energy (320 MW)
- 6 Midway Sunset - Midway Cogen (500 MW)
- 7 Antelope Valley - Enron (1000 MW)
- 8 Apex - Southern (500 MW)
- 9 Moapa - Duke (1200 MW)
- 10 Meadow Valley - PG&E (1000 MW)
- 11 Arrow Canyon - Reliant (500 MW)
- 12 Crystal - Calpine (800 MW)
- 13 El Dorado - Reliant/Sempra (480 MW)

● Under Development ● CEC Approved ● Under Construction ● Newly Constructed In Service



WYOMING SUPPLY



Source: GRI 2000 Baseline Projections



IMPACT OF ALLIANCE AND NORTHERN BORDER EXPANSION

- Less supply from Westcoast and PG&E Northwest pipelines as competition for Alberta and British Columbia supply increases.
- Rockies and San Juan gas will flow back to their traditional west markets, and will again encounter transportation bottlenecks. Clockwise supply rotation.
- San Juan gas is expected to remain flat and Rockies supply is expected to increase.
- Increased economic take-away capacity is needed from the Rocky Mountains to growing markets in Nevada and California and the Pacific Northwest.



KERN RIVER RATE REDUCTION STRATEGIES

- Rate Settlement - \$.02 Rate Reduction
- Reservation Rate Reduction - \$.06 removed from reservation rate and placed in commodity component
- Revenue Sharing Provision implemented
- Extended Term Rate Program
 - \$.42/Dth for 10 year contract extension
 - \$.47/Dth for 5 year contract extension
- Capacity segmentation creates opportunities to mitigate demand charges through multiple transportation transactions
- 2002 Expansion leads to lower rates
 - \$.40/Dth for 15 year term
 - \$.45/Dth for 10 year term
 - Partially offset by .5% increased fuel rate



KERN RIVER'S 2002 CALIFORNIA EXPANSION

New Shipper

Volume (Dth/d)

PG&E Energy Trading

50,000 (15 Years)

Barrett Resources Corp.

35,000 (10 Years)

Williams Energy Marketing

27,000 (15 Years)

Duke Energy Trading

12,500 (15 Years)

TOTAL

124,500

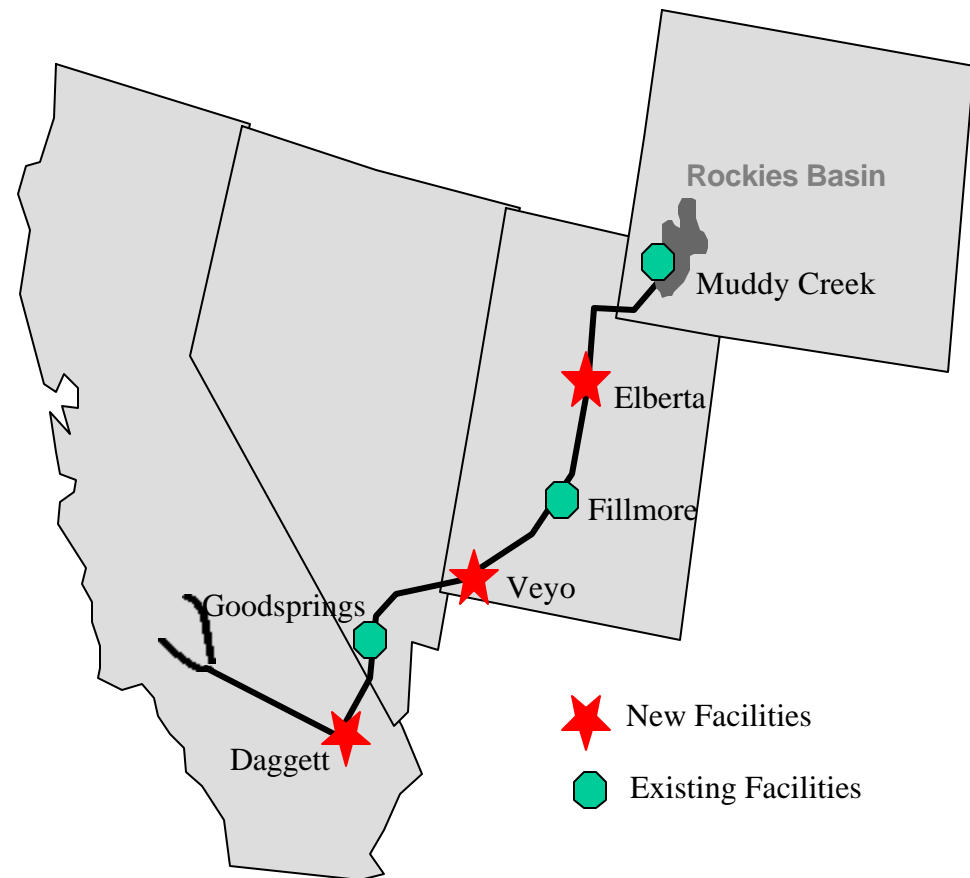
* All Primary Deliveries to California

* In Service May 2002



KERN RIVER MAINLINE FACILITIES AFTER 2002 EXPANSION

- 124,500 Dth/d expansion to California
- Install 49,500hp of compression at 5 sites
- Capital Cost \$80mm
- In service May 2002



KERN RIVER 2003 EXPANSION TIME LINE

- 11/30/00 Open Season Announced
- 1/31/01 Open Season Closes - Execute Binding Precedent Agreements
- 2/28/01 Communicate Rolled-In or Incremental Rate Analysis
- 3/15/01 Incremental Rate Contract Out Provision Terminates
- 6/01/01 Submit FERC Application
- 6/01/01 File Air Quality Permits
- 8/01/01 Order Major Materials
- 6/01/02 Receive FERC Approval
- 8/01/02 Commence Construction
- 5/01/03 Projected In-Service Date



CALIFORNIA REGULATORY ISSUES

- SoCal Residual Load Service Tariff (RLS) and the New Peaking Rates
- Capacity Limitations on Intrastate Pipelines
- Emissions Limits on Natural Gas Transporters



SOCAL RESIDUAL LOAD SERVICE TARIFF AND THE NEW PROPOSED PEAKING RATES

- Provides all or nothing service option to end users and insulates SoCal from competition
- Rate structure penalizes end users for selecting competitive service options by charging huge rate premiums for remaining service requirement
- Demand reservation charges are not appropriate for interruptible service
- Demand/reservation charges are not appropriate without firm tradable rights and an active secondary market to allow mitigation and recovery of demand charge payments. Unbundling is essential
- Primary market services should remain subject to cost based rate ceiling
- The emotion and economics of by-pass are outweighed by the benefits of competition and a rapidly growing gas market
- By-pass by wire is happening today and is more harmful to ratepayers



CAPACITY LIMITATIONS ON INTRASTATE PIPELINES

- Wheeler Ridge is constrained and should be expanded
- Wheeler Ridge is shared by three upstream pipes with a significant capacity mismatch
- SoCal Gas customers would benefit from increased access to low cost Rocky Mountain gas
- SoCal Gas Policy is that any new or expanded receipt points will have secondary or interruptible access only
- Interstate pipeline shippers need delivery point certainty to justify holding new expansion capacity
- New SoCal receipt points (i.e., Adelanto) should be considered to relieve intrastate transmission constraints



EMISSION LIMITS ON NATURAL GAS TRANSPORTERS

- Natural gas transporters prefer gas fired compression to expand gas deliveries. Gas fired generation offers price, efficiency and reliability advantage
- Emission credit shortage and timing of regulatory process dictate that in-state compression be electric driven.
- Gas fired compression is clearly more energy efficient
- Electric shortage could curtail electric delivery which in turn curtails gas delivery
- Gas transporters need emissions relief

